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PREFACE

The “Health and Hospital Statistics” report is published annually since 1980 and its aim is to provide basic information with regard to medical services provided and a comprehensive picture of the general level of health and morbidity in Cyprus.

The report, inter alia, provides data on hospital discharges, surgical operations, out-patient attendances, bed occupancy rates, information on medical, nursing and para-medical personnel, health indicators, as well as comparative data on previous years.

Up to 2019, due to lack of detailed data for the private sector, the data presented mainly referred to the public health services. The data available for the private sector referred to the number of doctors, dentists, nurses, clinics, beds, as well as the number of discharges, bed days, etc. From 2020 onwards, with the implementation of the General Health System (GHS), further information for the private sector has been made available.

The report was prepared by Ms. E. Kyriacou and Ms. N. Petrou, under the supervision of Ms. K. Onisiforou, Head of the Division of Demography, Social Statistics and Tourism.

Sincere thanks are expressed to all Services of the Ministry of Health, Health Insurance Organisation (HIO) and to all persons who provided assistance for the collection and submission of the information necessary for the preparation of this report.

Stavros Karagiorgis
Director
Statistical Service

September, 2023

HEALTH AND HOSPITAL STATISTICS 2021

1. GENERAL

1.1 Coverage

Up to May 2019, medical care in Cyprus was provided through the public and private sector health services. From June 2019 the gradual implementation of the General Healthcare System (GHS) began, firstly at the level of the primary care (out-patient visits) and from June 2020, at the level of the in-patient care. At the present press release, the data referring to the primary care as well as the in-patient care covers all the medical institutions and practices contracted with the GHS. Figures referring to medical care provided from hospitals contacted with the GHS to persons not enrolled to the GHS are not considered in the current report.

The data presented cover the Government controlled area and refer to discharges from the hospitals contracted with the GHS, i.e., hospitals of the State Health Service Organisation (SHSO) and of the private sector, surgical operations performed on in-patients of these hospitals, out-patient attendances performed within the GHS, various health indicators, expenditure on health services, causes of death and health personnel.

For 2021, the analysis of the data for discharges and out-patient attendances was based on the data reported to the Statistical Service of Cyprus from the IT system of the Health Insurance Organisation (HIO) and includes data from all hospitals and health professionals contracted with the GHS.

2. SUMMARY OF MAIN RESULTS

2.1 In-hospital care (Discharges)

The term “in-hospital health care” refers to the medical care provided to patients who have been through the full admission procedure in a hospital and either have stayed for treatment at the hospital for at least one night (in-patient) or have been discharged on the same day (day-care patients).

As regards the in-hospital health care, 2021 was the first year of the GHS complete implementation. Due to this major change performed in the health care system of Cyprus, the statistics on discharges is marked with a break in the timeseries and any comparison to the figures of previous years should be avoided.

The analysis of the data on discharges refers to the discharges issued from all hospitals contracted with the GHS, i.e., to the SHSO hospitals, as well as the private hospitals.

2.1.1 In-patient discharges from hospitals contracted with the GHS

The term “in-patient” refers to a person who has been through the full admission procedure in a hospital and stayed at the hospital for at least one night.

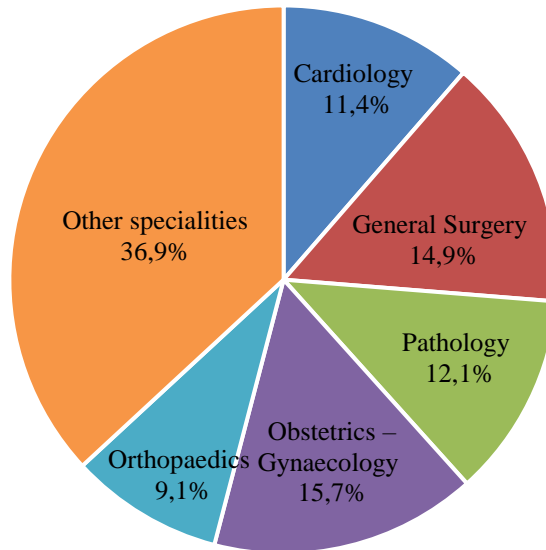
During 2021, 89.357 discharges were issued to in-patients, i.e., to patients staying at the hospital for at least one night. Of the total number of in-patient discharges, a percentage of 46,0% referred to SHSO hospitals, whereas the remaining 54,0% referred to private hospitals contracted with the GHS.

TABLE I. In-patient discharges from hospitals contracted with the GHS by Provider, 2021

<u>In-patient discharges</u>	Total		SHSO Hospitals		Private Hospitals Contracted with the GHS	
	No.	%	No.	%	No.	%
	89.357	100,0	41.063	46,0	48.294	54,0

The highest share of discharges among in-patients was issued from the speciality of Obstetrics and Gynaecology with 15,7%, followed by the specialities of General Surgery with 14,9%, Pathology with 12,1%, Cardiology with 11,4% and Orthopaedics with 9,1%. The term speciality refers to the speciality of the physician who submitted the claim for the incident. It should be stated that for each discharge it is possible to submit only one claim exclusively from the physician to whom the incident has been assigned, regardless of whether during the hospitalization the patient also received health care services from physicians of other specialities.

Figure 1: In-patient discharges from Hospitals contracted with GHS by Physician's speciality, 2021



According to the diagnosis at discharge, the diseases of the respiratory system and diseases of the circulatory system recorded the same percentage of 12,7%, followed by neoplasms with 11,7%, the diseases of the digestive system with 11,1%, pregnancy, childbirth and the puerperium with 10,5%, the diseases of the genitourinary system with 9,4% and injury, poisoning and certain other consequences of external causes with 9,2%.

TABLE II. In-patient discharges from hospitals contracted with GHS by specific disease category, 2021

Disease category	(%)
	2021
ALL CATEGORIES	100,0
Diseases of the respiratory system	12,7
Diseases of the circulatory system	12,7
Neoplasms	11,7
Diseases of the digestive system	11,1
Pregnancy, childbirth and the puerperium	10,5
Diseases of the genitourinary system	9,4
Injury, poisoning and certain other consequences of external causes	9,2
Other diseases	22,7

Of the in-patients discharged from hospitals contracted with the GHS, 47,7% were males and 52,3% females.

2.1.2 Day-care patient discharges from hospitals contracted with the GHS

The term “day-care patient” refers to a person who has been through the full admission procedure in a hospital, received medical care and was discharged at the same day without staying overnight. Examples are patients who are admitted to a hospital as planned in advance, stay there for several hours until the completion of the administration of a medicine or a medical care and are discharged at the same day. For example, patients under chemotherapy, haemodialysis, receiving medicine for a chronic health problem e.g., rheumatoid arthritis, Crohn’s diseases, etc. It should be noted that such data are included in the report “Health and Hospital Statistics” for the first time in 2021, since the respective figures were not available for previous years, before the implementation of the GHS.

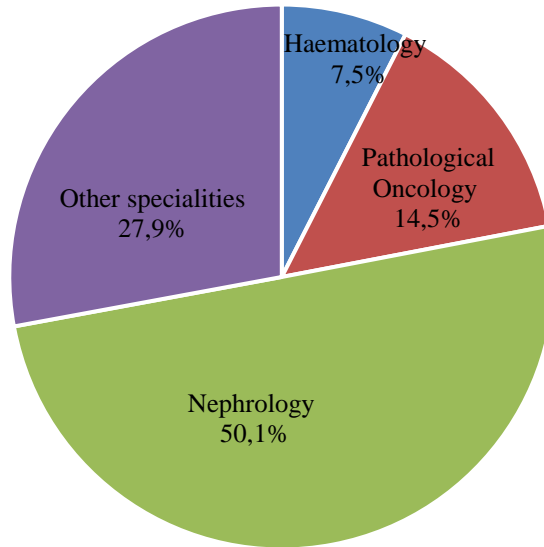
During 2021, 231.109 discharges were issued to day-care patients, namely to patients admitted in a hospital, received a planned medical care and were discharged at the same day. Of the discharges issued to day-care patients, a percentage of 62,7% referred to SHSO hospitals, whereas the remaining percentage of 37,3% referred to private hospitals contracted with the GHS.

TABLE III. Day-care patient discharges from Hospitals contracted with the GHS by Provider, 2021

<u>Day-care patient discharges</u>	Total		SHSO Hospitals		Private Hospitals Contracted with the GHS	
	No.	%	No.	%	No.	%
	231.109	100,0	144.891	62,7	86.218	37,3

As regards the discharges by the physician’s speciality, the speciality of Nephrology recorded the highest percentage of 50,1%, followed by Pathological Oncology with 14,5% and Haematology with 7,5%.

Figure 2: Day-care discharges from Hospitals contracted with GHS by Physician's Speciality, 2021



2.2 Surgical operations

During 2021, 64.980 surgical operations were performed on in-patients and day-care patients at hospitals contracted with the GHS. As already mentioned for the statistics on hospital discharges, any comparison to the figures of previous years should be avoided due to the changed in the health care system of Cyprus.

Taking into account the speciality of the physician who claimed for each discharge, the speciality of gynaecology and obstetrics has the highest share of the surgical operations performed on in-patients and day-care patients with 25,9%, followed by general surgery with 20,8%, orthopaedic surgeries with 15,3%, otorhinolaryngology (ENT) with 8,3% and urology with 5,9%.

TABLE IV. Percentage of surgical operations performed on in-patients and day-care patients at hospitals contracted with the GHS by speciality, 2021

Speciality	%
TOTAL	100,0
Gynaecology & Obstetrics	25,9
General Surgery	20,8
Orthopaedic	15,3
Otorhinolaryngology (ENT)	8,3
Urology	5,9
Other specialities	23,8

2.3 Out-patient attendances

The figures for years 2020 and 2021 on out-patient attendances presented in this report have been obtained from the IT system of the HIO and refer to all hospitals and physicians who have been contracted with the GHS. Due to the change on the health care system of Cyprus, any comparison to the figures of previous years should be avoided, since a break in the timeseries has been marked in 2020.

During 2021 a total of 7.202.579 out-patient attendances were recorded compared to 6.016.478 in 2020, recording an increase of 19,7%.

TABLE V. Out-patient attendances by provider and type, 2020-2021

Attendances to	2020		2021	
	SHSO Hospitals and Health Centres	GHS Private Doctors	SHSO Hospitals and Health Centres	GHS Private Doctors
TOTAL	982.563	5.033.915	951.872	6.250.707
Personal doctors	466.232	2.303.676	489.164	2.942.832
Specialists	516.331	2.730.239	462.708	3.307.875

Of the total number of out-patient attendances, 951.872 (percentage of 13,2%) were performed at the out-patient departments of SHSO hospitals and health centres, whereas 6.250.707 (percentage of 86,8%) were performed to physicians of the private sector contracted with the GHS. For 2020 the respective figures were 16,3% and 83,7%.

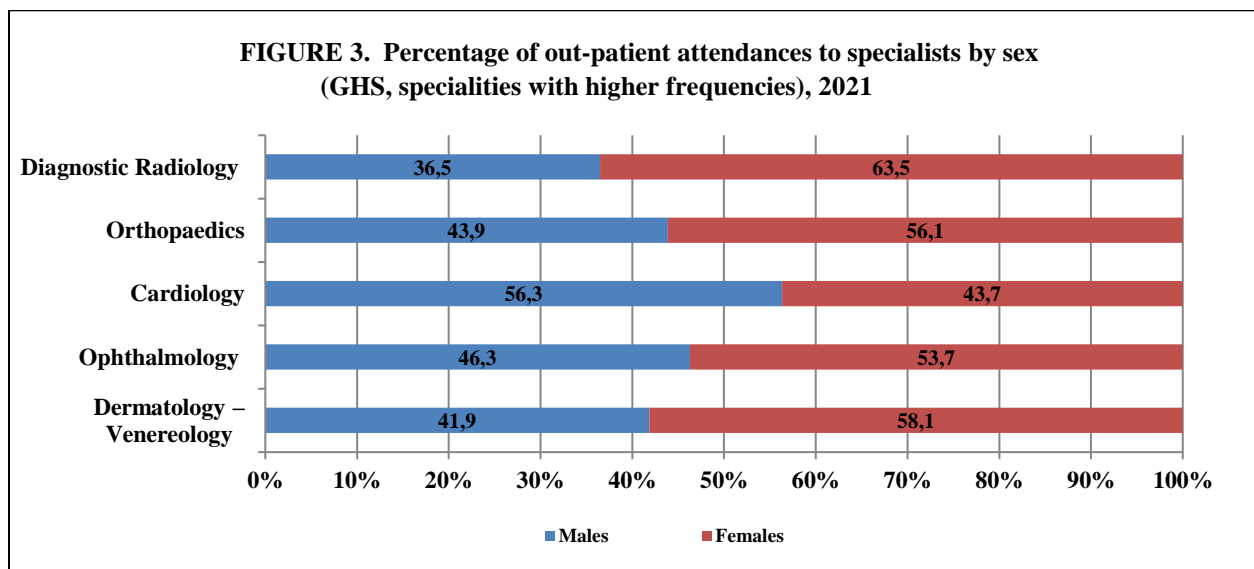
As regards the type of health care provider, of the out-patient attendances to personal doctors, a percentage of 14,3% was performed at SHSO hospitals and health centres, whereas the remaining percentage of 85,7% was performed to physicians of the private sector contracted with the GHS. The respective figures for 2020 were 16,8% and 83,2%.

Of the out-patient attendances to special doctors, a percentage of 12,3% was performed at SHSO hospitals and health centres, whereas the remaining percentage of 87,7% was performed to physicians of the private sector contracted with the GHS. The respective figures for 2020 were 15,9% and 84,1%.

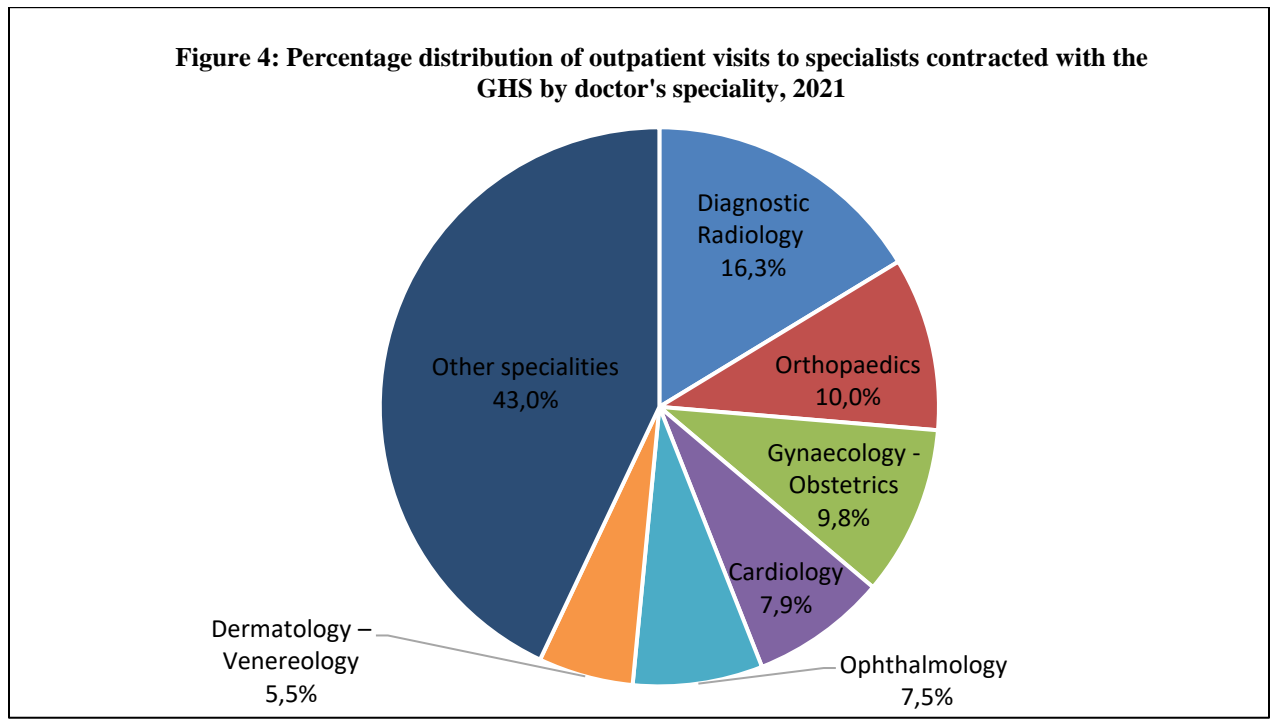
TABLE VI. Out-patient attendances by provider and type of attendance, 2021

Attendances to	Total		SHSO Hospitals and Health Centres		Private doctors contracted with GHS	
	No.	%	No.	%	No.	%
TOTAL	7.202.579	100,0	951.872	13,2	6.250.707	86,8
Personal doctors	3.431.996	100,0	489.164	14,3	2.942.832	85,7
Specialists	3.770.583	100,0	462.708	12,3	3.307.875	87,7

Attendances of female patients to specialized doctors outnumbered males with shares of 59,8% compared to 40,2%. These percentages differ depending on the speciality. For example, more men with percentage 56,3% visited a specialist in cardiology, compared to the respective percentage of women which was 43,7%. In other specialities, the attendances of female patients outnumbered those of males.



As regards the out-patient attendances to specialists contracted with the GHS, the speciality of diagnostic radiology has the highest share with 16,3%, followed by orthopaedics with 10,0%, gynaecology and obstetrics with 9,8%, cardiology with 7,9%, ophthalmology with 7,5% and dermatology with 5,5%.



During 2021, a total of 194.563 patients visited the Casualty Departments of the SHSO general hospitals, as compared to 166.890 in 2020. Moreover, in 2021 20.156 attendances were performed in Casualty Departments of private sector’s hospitals which have been contracted with the GHS.

Dental attendances during 2021 totaled 44.580, as compared to 48.979 in 2020. The figures do not include data for the mobile dental unit.

2.4 Hospital beds

In 2021 hospital beds totaled 2.802. A number of 1.429 beds were operating in the public sector (SHSO) (of which 1.265 in the general hospitals, 40 in rural hospitals and 124 in the Mental Health Hospital) and 1.373 in the private sector. These figures do not include beds of the Casualty Departments, Dialysis Units and Thalassaemia.

The number of persons per hospital bed was estimated at 321 in 2021, while in 2020 at 316. The number of hospital beds per nurse remained stable at 0,6 in 2021, as it was in 2020.

2.5 Personnel

2.5.1 Medical personnel

There were 4.433 doctors in 2021 as compared to 4.176 in 2020. The public sector numbered 797 doctors of various specialities and the private sector 3.636, i.e. 18,0% and 82,0% respectively. The number of persons per doctor was 203 in 2021 and 214 in 2020.

In 2021 there were 990 dentists. The public sector employed 38 dentists and the private sector 952. The number of persons per dentist was 909 in 2021.

2.5.2 Nursing personnel

During 2021, 3.492 nurses of various grades were employed in the public sector and 1.524 in the private sector, compared to 3.519 and 1.561 respectively in 2020. The number of persons per nurse was 186 in 2021, whereas in 2020 it was 181.

2.6 Health care expenditure

The analysis of health care expenditure is based on the methodology proposed by Eurostat and specifically on the manual of the System of Health Accounts (SHA2011). The total health care expenditure is the result of the addition of current health care expenditure and capital formation. The data referring to year 2021 is provisional.

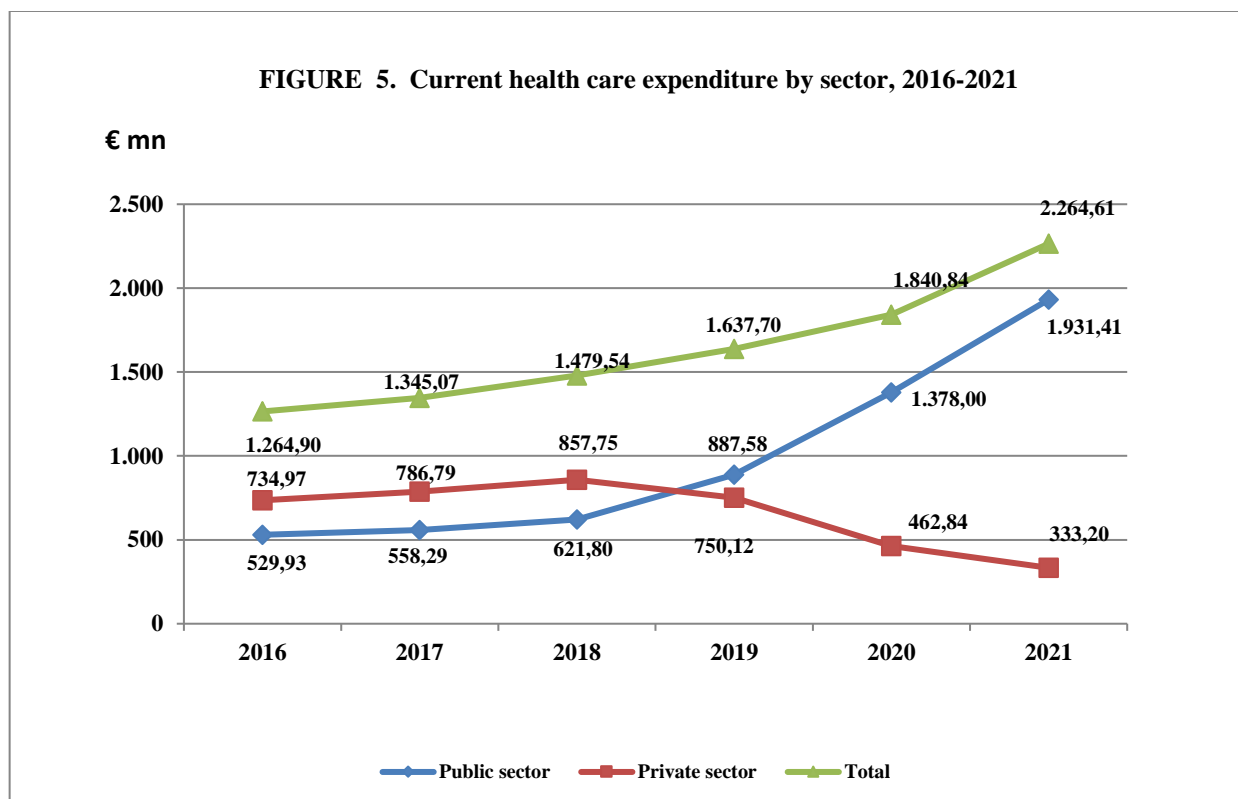
It should be noted that the public health expenditure has been increased in 2019 and 2020 due to the implementation of the GHS for primary health care in 2019 and for in-patient health care in 2020.

2.6.1 Total and current health care expenditure

Total health care expenditure for 2021 is estimated at €2.338,51 mn of which €1.960,41 mn represent expenditure of the public sector and €378,10 mn of the private sector. The share of total expenditure on health as a percentage of GDP for year 2021 is 9,7%, while in 2020 was 8,7%.

The current health care expenditure (not including capital formation) for 2021 is estimated at €2.264,61 mn of which €1.931,41 mn correspond to expenditure of the public sector and €333,20 mn of the private sector. The share of current expenditure on health as a percentage of the gross domestic product (GDP) for year 2021 is 9,4%, while in 2020 was 8,4%.

FIGURE 5. Current health care expenditure by sector, 2016-2021



2.6.2 Financing schemes

In 2021, 85,3% of current health care expenditure was channeled through government outlays (including the expenditure on GHS), which was the largest source of funding in the system. This is due to the complete implementation of the GHS in 2021 as regards both primary care and in-patient health care. Household out-of-pocket payments presenting a percentage of 9,9%, whereas voluntary schemes represented 4,8% (voluntary health insurance schemes and non-profit institutions serving households (NPISH) financing schemes).

2.6.3 Health care functions

In 2021, 68,7% of the current health care expenditure was spent for curative and rehabilitative care, 16,0% for medical goods (pharmaceuticals, therapeutic appliances and other medical durable goods), 8,4% for ancillary services (medical and diagnostic laboratories), 3,3% for long term care, 1,4% for the governance and health system and financing administration and 2,2% for preventive care.

2.6.4 Health care providers

As regards the health care providers, in 2021, a share of 53,0% of the current health care expenditure refers to hospitals, 20,9% to ambulatory health care (includes home health care services), 14,6% to retailers and other providers of medical goods, 5,8% to providers of ancillary

services (medical and diagnostic laboratories), 1,4% to providers of health care system administration and financing, 1,3% to providers abroad, 1,3% to residential long-term care facilities, and the rest of 1,7% to providers of preventive care.

2.7 Deaths by cause of death

In 2021, 7.326 deaths have been recorded, including all deaths of residents, as well as non-residents dying in Cyprus. A percentage of 53,1% of total deaths (3.889 deaths) referred to men, whereas 46,9% (3.437 deaths) referred to women. The main causes of death were diseases of the circulatory system (25,4%), neoplasms (22,6%), endocrine, nutritional and metabolic diseases and as well as COVID-19 (8,5% respectively) and diseases of the respiratory system (7,2%). Other causes of death follow with lower frequencies.

3. DEFINITIONS OF TERMS USED

In-patient: Is a person who has been through the full admission procedure in a hospital, stayed at the hospital for treatment for at least one night and for whom a “Patient’s File” has been prepared.

Day-care patient: Is a person who has been through the full admission procedure in a hospital, was admitted and discharged at the same day and for whom a “Patient’s File” has been prepared.

Discharge: Is the conclusion of a period of in-patient care, irrespective of whether the patient returned home, was sent to another hospital, left the hospital without medical advice or died.

Surgical operation: Is any therapeutic or major diagnostic procedure which involves the use of instruments or the manipulation of part of the body and generally takes place under operating theatre conditions.

Out-patient attendance: Is the visit of the patient to an out-patient department of a hospital, clinic or the visit to a medical office.

Bed-occupancy rate: It represents bed days in a given year expressed as a percentage of the total bed days which would have been obtained, assuming that all beds were occupied during the given year.

4. SOURCES OF DATA

4.1 In-hospital care (Discharges)

The information included in the current publication for year 2021, refer to the discharges issued to in-patients and day-care patients from hospitals contracted with the GHS, in contrast with previous years when the data referred solely to the SHSO hospitals.

This information is forwarded to the Statistical Service from the HIO in the form of micro databases and the compilation, analysis and tabulation and of data are performed by Statistics Officers.

It should be noted that data relates to hospital discharges and not to individual patients. This means that a single patient may therefore account for more than one discharge during the year.

From 2011 onwards, the coding of diseases is performed by nurses at the various hospitals. Prior to 2011, the coding of diseases was performed by personnel of the Statistical Service of Cyprus.

The following should be noted:

- As regards 2021, it is not feasible to analyze the discharges by department. However, the discharges are presented by the speciality of the physician who claimed for each case.
- Only one claim is permitted for each discharge and it should be made from the caring doctor responsible for the hospitalization.
- The analysis of the data is based solely on the diagnosis at discharge of the patient.
- Included are all discharges performed during the reference year.
- For each discharge, the total number of bed days is taken into account, irrespective of whether some of them may refer to a previous year.
- The leave days, i.e., if a patient leaves the hospital for a few days but the bed is reserved, e.g. goes home for the weekend and returns back on Monday, are included in the number of bed days.
- Zero hospital days have been assigned to the day-care patients.

4.2 Surgical operations

As regards surgical operations, tables C1-C2 present the total number of operations performed on in-patients and day-care patients by the speciality of the physician who claimed for the case and by the provider. Tables C3-C9 present selected surgical procedures, as obtained from the codification performed from hospitals, based on the international classification ICD9-CM.

4.3 Out-patient attendances

The information included in the current report for years 2020 and 2021 on out-patient attendances have been obtained from the IT system of the HIO and refer to all the attendances performed to the health care providers contracted with the GHS.

5. CLASSIFICATION SYSTEMS USED

5.1 Diseases

Data on the diseases (diagnosis) for in-patients and day-care patients are coded according to the International Statistical Classification and Related Health Problems of the World Health Organization (Tenth Revision, ICD-10) at the three-character categories. Statistics are tabulated according to the 21 Chapters and the tabulation list for morbidity.

5.2 Surgical operations

Surgical operations are coded according to the International Classification of Procedures, Clinical Modification, of the World Health Organization (ICD9-CM). Statistics are tabulated according to the surgical procedures shortlist, as suggested by Eurostat.

6. EXPLANATION OF SYMBOLS

n.a.	Not applicable
...	Data not available
0	Zero or less than half of the unit
(000's)	Thousands
€(mn)	Million euro
incl.	Including
cont'd.	Continued
p	Provisional, preliminary data
e	Estimate
r	Revised data
b	Break in time series

7. DETAILED TABLES

The complete set of detailed tables referring to Health and Hospital Statistics 2020 are available in the relevant Excel files in the sections presented below, at the web portal of the Statistical Service, at the following link:

<https://www.cystat.gov.cy/en/KeyFiguresList?s=38>

A. Summary Tables

B. In-patients

C. Surgical Operations

D. Out-patient attendances

E. Health Personnel

F. Health Care Expenditure

G. Deaths by cause of death